UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,028	08/15/2001	Markku Verkama	P279295	9392

909	7590	01/10/2005

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EXAMINER
IQBAL, KHAWAR

ART UNIT	PAPER NUMBER
2686	

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/830,028	VERKAMA, MARKKU
	Examiner	Art Unit	
	Khawar Iqbal	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 December 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-2,4-12 and 14 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Mony (6009383) and further in view of Watanabe et al (5991642).

3.   Regarding claim 1 Mony teaches a digital telecommunication system comprising

(figs. 1,3,5,6):

a first center (40) configured to enable speech communication between a

plurality of terminals (1, 1'), the first center being (49) associated with a calling terminal

(1) and including a first transcoder (18) unit (col.6, lines 14-30);

a second center (40') that is configured to enable speech communication

between a plurality of terminals (1,1'), the second centre (40') being associated with a

called terminal (1') and including a second transcoder unit (18') (col. 6, lines 14-30),

wherein the first and second transcoder units each include speech codecs

(18,18'), and each of the terminals comprises one or more speech codecs, the terminals

being arranged to provide information regarding the supported one or more speech

codecs to their associated switching centers (40) (col. 6, lines 14-35, col. 7, lines 20-

51);

the first centre (40) is configured to perform handshaking with the second center

(40'), the handshaking including indication of the speech codecs supported by the

calling terminal (col. 6, lines 14-30) wherein at least one of the first (40) and second

(40') centres is configured the speech codec used by the calling (1) and called terminals

(1') (col. 6, lines 14-35, col. 7, lines 20-51), and wherein at least one of the first (40) and

(40') second centres is configured to establish call connections that bypass one or more

of the transcoder units or to control the transcoder units to transmit encoded speech

between the called and calling terminals without performing speech encoding

operations so that speech is encoded (11) and decoded (11') only in the terminals (col.

6, lines 14-43, col. 3, lines 53-60, col. 5, line 58). Mony teaches the communication

protocol lets the two ends of the communication path to determine whether they should

communicate in PCM mode, when one terminal is analog and the other digital, or forgo

the conversion from compressed speech to PCM to let the encoder in one terminal talk

directly to the decoder of the other terminal in a digital-to-digital connection (mobile-to-

mobile and mobile-to-land). VSN 60 also comprises a speech codec 18' including

VSELP decoder 56 and VSELP encoder 57, which are inserted in the path of the

incoming and outgoing signal, respectively, according to the mode of operation in codec

bypass or PCM mode. Selection of the mode of operation is figuratively shown using

A/D detector 108' and switch 104'. Mony does not specifically (clearly) teach wherein at

least one of the first and second centres is configured to choose the speech codec used

commonly by the calling and called terminals.

In an analogous art, Watanabe et al wherein at least one of the first and second centres is configured to choose the speech codec used commonly by the calling and called terminals (col. 10, lines 20-49). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Mony by specifically adding feature configured to choose the speech codec used commonly by the calling and called terminals in order to enhance switching of communication channels using optimum voice coding system can be made smoothly.

Regarding claim 2 Mony teaches wherein the telecommunication system is a mobile communication system (fig. 3) in which the terminals include mobile stations (1,1'), and the telecommunication system further comprises a mobile communication network and at least one of the first (40) and second (40') centres is a mobile switching center (col. 5, lines 28-48).

Regarding claim 4 Mony teaches wherein the handshaking is performed as outband signaling (col. 6, lines 14-35).

Regarding claim 5 Mony teaches wherein the first and second centres are configured to perform the handshaking in association with a routing information inquiry issued in response to a determination that the called terminal is a mobile subscriber (col. 8, line 60-col. 9, line 7).

Regarding claim 6,7 Mony teaches the first center is configured to send the routing information inquiry including information associated with the speed coded sported by the calling terminal (col. 6, lines 14-30, col. 8, line 60-col. 9, line 7, col. 4, lines 39-49).

Regarding claim 8 Mony teaches wherein the first and second centres are configured to perform the handshaking in association with inter-MSC signaling (col. 6, lines 14-30, col. 7, lines 30-52).

Regarding claim 9 Mony teaches the first centre is configured to send a message requesting connection set-up, the message including information indicating, the speech codecs supported by the calling terminal (col. 6, lines 14-30), the second centre is configured to select a speech codec associated with the call connection which both the called and calling terminals are configured to support, and the second centre is configured to send information associated with the codec associated with the call connection, in a reply message to the connection set-up message (col. 6, lines 14-30, col. 7, lines 30-52).

Regarding claims 10,11 Mony teaches wherein, when required, at least one of the first and second centre is configured to notify the associated of the speech codec it has to use as the result of the handshaking (col. 6, lines 14-30, col. 7, lines 30-52).

Regarding claim 12 Mony teaches wherein a pulse code modulated digital link exists between the first and second centres, and the first and second centres are configured to control their respective transcoder units to adapt an encoded speech signal to one or more least significant bits of PCM samples without transcoding (col. 6, lines 14-30, col. 7, lines 30-52).

Regarding claim 14 Mony teaches a centre in a digital telecommunication network configured to receive information regarding supported one or more speech

codecs of a calling terminal and connect a transcoder located in a transcoder unit to a

call connection when required, wherein:

the centre is configured to perform handshaking with another centre associated

with a called terminal, the handshaking including indication of speech codecs supported

by the calling terminal associated with the centre, the centre also being configured to

choose the speech codec used by the terminals (col. 6, lines 14-35, col. 7, lines 20-51),

and the centre is configured to connect a call connection that bypasses the transcoder

unit or to control the transcoder unit to transmit the encoded speech without performing

speech encoding operations in such a way that speech encoding and decoding are only

performed in the calling or called terminal (col. 6, lines 14-43, col. 3, lines 53-60, col. 5,

line 58). Mony teaches the communication protocol lets the two ends of the

communication path to determine whether they should communicate in PCM mode,

when one terminal is analog and the other digital, or forgo the conversion from

compressed speech to PCM to let the encoder in one terminal talk directly to the

decoder of the other terminal in a digital-to-digital connection (mobile-to-mobile and

mobile-to-land). VSN 60 also comprises a speech codec 18' including VSELP decoder

56 and VSELP encoder 57, which are inserted in the path of the incoming and outgoing

signal, respectively, according to the mode of operation in codec bypass or PCM mode.

Selection of the mode of operation is figuratively shown using A/D detector 108' and

switch 104'. Mony does not specifically (clearly) teach wherein at least one of the first

and second canters is configured to choose the speech codec used commonly by the

calling and called terminals.

In an analogous art, Watanabe et al wherein at least one of the first and second centres is configured to choose the speech codec used commonly by the calling and called terminals (col. 10, lines 20-49). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Mony by specifically adding feature configured to choose the speech codec used commonly by the calling and called terminals in order to enhance switching of communication channels using optimum voice coding system can be made smoothly.

4.   Claims 3,13,15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mony (6009383) and further in view of Watanabe et al (5991642) and Valentine et al (6600740).

Regarding claims 3,13,15-17 Mony teaches voice service node serving wireless speech terminal coupled to mobile switching center MSC, speech codec, speech recognizer and bypass unit exchanging messages with remote bypass unit at MSC. For providing a voice service node serving a wireless speech terminal coupled to a mobile switching center comprising a bypass unit, a speech codec and a speech recognizer. Mony and Watanabe et al do not specifically teach MSC signaling is ISUP, setup is an IAM and ANM message and packet switched link.

In an analogous art, Valentine et al teaches MSC signaling is ISUP, setup is an IAM (IAM message) and ANM message (backwards massages) (col. 6, line 59-col. 7, line 25) and packet switched link (col. 6, line 11-15). Transmitter generates signal identifying the originating encoding algorithm used by the originating codec for encoding an input signal. Processor analyzes encoding artifacts detected in the

encoding signal, after processing the encoding algorithm identification signal and

applies analysis in conjunction with the encoding algorithm to reconstruct the input

signal. Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the device of Mony and Watanabe et al by

specifically adding feature the reply message to the connection set-up message is an

ANM, IAM message according to ISUP signaling in order to enhance system

performance Improves voice quality by using an encoding algorithm better matching

the decoding algorithm and realizes improved voice communication as taught by

Valentine et al.

Response to Arguments

5.   Applicant's arguments with respect to claims 1-17 have been considered but are

moot in view of the new ground(s) of rejection.

Conclusion

6.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to KHAWAR IQBAL whose telephone number is 703-306-

3015.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, **BANKS-HAROLD, MARSHA**, can be reached at 703-305-4379.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2684 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the Technology Center 2600 Customer Service Office whose

telephone number is (703) 306-0377.

Khawar Iqbal

RAFAEL PEREZ-GUTIERREZ
PATENT EXAMINER
1/10/05